

## REMARKS

In the patent application, claims 1-24 are pending. In the final office action, mailed October 20, 2006, claims 1-24 are rejected.

Applicant has amended claims 1, 14, 17, 23 and 24. Claims 1, 17 and 23 have been amended to include the limitation that the error concealment procedure is applied in a decoding process. Claims 14 and 24 have been amended to include the limitation that the provided information is for used in a decoding process.

The support for the amendment can be found on p.8, lines 4-5.

No new matter has been introduced.

At section 2 of the office action, claims 1-10, 14, 17, 19 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by *Wells et al.* (U.S. Patent Number 6,310,915, hereafter referred to as *Wells*).

In rejecting these claims, the Examiner states that *Wells* discloses a method of error concealment wherein an error concealment procedure is applied to conceal an error in a frame belonging to a transition based on the identified type of scene transition (col.10, lines 10-20; col.12, lines 45-67).

Applicant respectfully disagrees.

*Wells* discloses a method of decoding and re-encoding a previously encoded video signal to a second encoded representation (see Abstract). In particular, *Wells* discloses having scanners 22, 22' to gather information regarding each picture and the k-1 pictures that follow it in the previously encoded video signal (col.9, line 52-54). The information includes (a) the picture coding type (I, B or P),... (p) characteristics of the content of the video, such as scene changes, dissolves, fades, slow motion sequences, etc. (col.10, lines 12-14). The information may indicate the encoded representation of the previously encoded video signal (col.10, lines 51 to col.11, line 2). The purpose of gathering the information is to allow the encoders 20, 20' to adjust encoding in order to re-encode the video signal more optimally (col.11, lines 5-7). The encoding adjustment includes a number of actions, including (2) changing channel bit rate, (3) changing picture resolution, ... (9) enabling/disabling error concealment motion vectors. The optional

error concealment motion vectors enable reconstruction of corrupted rows of macroblocks.

Thus, it is possible for the encoders 20, 20' to omit error-concealment motion vectors.

Alternatively, the encoders 20, 20' can retain previously encoded or add newly generated error-concealment motion vectors (col.12, lines 48 – 65).

In sum, *Wells* only discloses that the encoder (20 or 20') is able to retain, delete or add error-concealment motion vectors when re-encoding the video signal. However, the error-concealment motion vectors are not representative of the type of scene transition. Furthermore, *Wells* does not disclose or suggest how to conceal errors in the decoding process. Thus, *Wells* is irrelevant to the present invention as claimed in claims 1-10, 17, 19 and 22.

In rejecting claim 14, the Examiner states that *Wells* discloses means for identifying frames associated with the transition (col. 10, lines 10-12) and means for providing information about the type of transition (col.12, lines 45-67).

It is respectfully submitted that, at col.12, lines 45-67, *Wells* discloses:

(9) Enable (retain or add)/disable (delete or refrain from generating) error-concealment motion vectors, slice headers or both: Error-concealment motion vectors enable reconstruction of corrupted row of macroblocks. However, error-concealment motion vectors are strictly optional and occasionally are not needed in low channel error environments (e.g. if the channel is a storage medium such as an optical disc). Likewise, slice headers are also optional. ... Thus, it is occasionally desirable for the encoder 20, 20' to omit (i.e. delete previously encoded or refrain from generating new) error-concealment motion vectors, slice headers or both, in the re-encoded video signal in an effort to conserve bits. In the alternative, the encoder 20 and 20' can include (i.e., retain previously encoded or add newly generated) error-concealment motion vectors, slice headers or both in the re-encoded video signal.

Thus, *Wells* only discloses that the encoder is able to retain, delete or add error-concealment motion vectors when re-encoding the video signal. The error-concealment motion vectors are not representative of the type of scene transition. Therefore, *Wells* fails to disclose or suggest that an information about the type of transition is provided to the decoding process.

For the above reasons, claim 14 is distinguishable over the cited *Wells* reference.

At section 3, claims 11-13, 15-16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Wells*, in view of *Viscito et al.* (U.S. Patent Application Publication Number 2004/0005007, hereafter referred to as *Viscito*). The Examiner cites *Viscito* for disclosing that the information indicative of the identified scene transition is provided in a supplemental enhancement information message (paragraph [0045], lines 5-11) so as to conceal the error based on the information.

It is respectfully submitted that there is no suggestion that the scene transition provided in *Viscito* is used in performing an error concealment procedure during decoding process. In paragraph [0045], *Viscito* only discloses that, for the first picture and all pictures that are the first picture after receiving a buffer period SEI message, the coded data associated with the picture is removed from the buffer at a computed removal time. *Viscito* does not disclose that scene transition information may be sent as SEI messages.

Thus, *Wells*, in view of *Viscito*, fails to render claims 11-13, 15-16 and 18 obvious.

Furthermore, claims 11-13, 15-16 and 18 are dependent from claims 1, 14 and 17 and recite features not recited in claims 1, 14 and 17. For reasons regarding claims 1, 14 and 17 above, it is respectfully submitted that claims 11-13, 15-16 and 18 are also distinguishable over the cited *Wells* and *Viscito* references.

At section 6, claims 23 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by *Wells*.

In rejecting claim 23, the Examiner states that *Wells* discloses a video decoder having means for concealing an error in a frame belonging to the transition based on the information indicative of the identified type of scene transition (col.12, lines 45-67; col.13, lines 1-30).

It is respectfully submitted that, at col.12, lines 45-67, *Wells* discloses:

(9) Enable (retain or add)/disable (delete or refrain from generating) error-concealment motion vectors, slice headers or both: Error-concealment motion vectors enable reconstruction of corrupted row of macroblocks. However, error-concealment motion

vectors are strictly optional and occasionally are not needed in low channel error environments (e.g. if the channel is a storage medium such as an optical disc). Likewise, slice headers are also optional. ... Thus, it is occasionally desirable for the encoder 20, 20' to omit (i.e. delete previously encoded or refrain from generating new) error-concealment motion vectors, slice headers or both, in the re-encoded video signal in an effort to conserve bits. In the alternative, the encoder 20 and 20' can include (i.e., retain previously encoded or add newly generated) error-concealment motion vectors, slice headers or both in the re-encoded video signal.

Thus, at col. 12, lines 45-67, *Wells* only discloses that the encoder is able to retain, delete or add error-concealment motion vectors when re-encoding the video signal. The error-concealment motion vectors are not representative of the type of scene transition.

At col. 12, line 66 to col. 13, line 33, *Wells* discloses:

As may be appreciated, the encoders 20 and 20' have much choice in encoding a video signal. For example, the following are decisions made during re-encoding: (a) choosing the group of picture structure (i.e., the number of P and B pictures between successive I pictures), (b) choosing to recognize a field as a repetition of the first displayed field of a frame, (c) choosing to encode a picture as a frame or as two fields, (d) choosing whether or not to skip a macroblock, (e) choosing whether or not to provide encoded data for a non-skipped macroblock, (f) choosing to inter encode or to intra encode a macroblock, (g) choosing to motion compensate a macroblock as a frame macroblock or as two field macroblocks (h) choosing a motion vector search range, (i) choosing the kind of prediction (forward only, backward only, bidirectional, dual prime) to perform on a macroblock, (j) choosing whether or not to provide coded data for a block, etc. Most of these choices are made by the encoders 20 and 20' evaluating one or more decision functions of an error produced from each available encoding mode. The evaluation of a decision function produces an affinity for choosing one of the encoding modes. The decision function can be a simple comparison with a threshold. Alternatively, the decision function is a more complex function, in which a bias is added to the error, a weight is multiplied with the error, and/or other parameters, such as the bit rate or the

quantizer scale factor, are used in forming the decision. Any one of these decision mode functions can be varied by the encoders 20 and 20'.

(11) Change decision function(s) for following the encoding decisions made in forming the previously encoded video signal: The encoders 20 and 20' can use one or more decision functions for determining whether or not to follow an encoding decision in the previous picture, such as the decisions noted above.

*Wells*, at col.13, lines 1-30, only discloses that the encoders adjust the encoding parameters based on certain statistics while encoding a video frame. *Wells* fails to disclose that the decoding device has means for concealing in a decoding process an error in a frame belonging to the transition based on the information retrieved indicative of the identified type of scene transition from the received encoded video data stream.

For the above reason, claim 23 is distinguishable over the cited *Wells* reference.

In rejecting claim 24, the Examiner states that *Wells* discloses means for providing information about the type of transition in the encoded video data stream (col.12, lines 45-67).

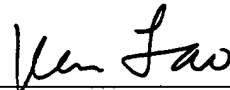
As discussed above, at col. 12, lines 45-67, *Wells* only discloses that the encoder is able to retain, delete or add error-concealment motion vectors when re-encoding the video signal. The error-concealment motion vectors are not representative of the type of scene transition. *Wells* fails to disclose or suggest that an information about the type of transition is provided to the decoding process.

For the above reason, claim 24 is distinguishable over the cited *Wells* reference.

CONCLUSION

Claims 1-24 are allowable. Early allowance of all pending claims is earnestly solicited.

Respectfully submitted,



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